1. A semiconductor device comprising:

a layer having silicon; and

a separate diffusion barrier layer deposited on said silicon layer, said diffusion barrier layer comprising aluminum, a metal selected from the group consisting of Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W, and at least one element selected from the group consisting of N and B.

2. A semiconductor device as in claim 1 and further comprising a layer of metal on said diffusion barrier layer.

3. A semiconductor device as in claim 2 wherein said layer of metal comprises a metal selected from the group consisting of Al and W.

4. A semiconductor device as in claim 1 and further comprising a layer of dielectric material on said diffusion barrier.

5. A semiconductor device as in claim 4 wherein said dielectric material comprises a material selected from the group consisting of tantalum pentoxide (Ta_2O_5), Barium Strontium Titanate (BST), Strontium Titanate (ST), Lead Zirconium Titanate (PZT), Strontium Bismuth Tantalate (SBT) and Bismuth Zirconium Titanate (BZT).

6. A semiconductor as in claim 1 wherein said metal is selected from the group consisting of Ti, Zr, Hf, Ta and Nb.

7. A semiconductor device as in claim 6 wherein said diffusion barrier layer comprises a material having the formula $M_xAl_yN_zB_w$, wherein M is said metal and x + y = 1, and z + w/2 = 1.

8. A semiconductor device as in claim 1 wherein said metal is selected from the group consisting of Mo and W.

9. A semiconductor device as in claim 8 wherein said diffusion barrier layer comprises a material having the formula $M_xAl_yN_zB_w$, wherein M is said metal and x + y = 1, and z + 2w = 1.

10. A semiconductor device as in claim 6 wherein said diffusion barrier comprises a material having the formula $M_{0.7}Al_{0.3}N_{0.3}B_{1.4}$, wherein M is said metal.

11. A semiconductor device as in claim 8, wherein said diffusion barrier layer comprises a material having the formula $M_{0.7}Al_{0.3}N_{0.3}B_{0.35}$, wherein M is said metal.

12. A diffusion barrier located between a silicon substrate and a metal film in a semiconductor device, said diffusion barrier comprising;

a mixed metal boron-nitride layer formed on said film and having the formula $M_xAl_yN_zB_w$, wherein M is Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, or W; x is greater than zero; y is greater than or equal to zero; the sum of z and w is greater than zero; and wherein when y is zero, z and w are both greater than zero.

13. A diffusion barrier as in claim 12 wherein M is Ti, and w is greater than 0.

14. A diffusion barrier as in claim 12 wherein said layer of metal comprises a metal selected from the group consisting of Al and W.

15. A diffusion barrier as in claim 12 wherein M is a metal selected from the group consisting of Ti, Zr, Hf, Ta and Nb.

16. A diffusion barier as in claim 15 wherein $x + y = 1$, and $z + w/2 = 1$.

17. A diffusion barrier as in claim 12 wherein M is a metal selected from the group consisting of Mo and W.

18. A diffusion barrier as in claim 17 wherein $x + y = 1$, and $z + 2w = 1$.

19. A diffusion barrier as in claim 15 wherein said diffusion barrier has the formula $M_{0.7}Al_{0.3}N_{0.3}B_{1.4}$.

20. A diffusion barrier as in claim 17, wherein said diffusion barrier has the formula $M_{0.7}Al_{0.3}N_{0.3}B_{0.35}$.

21. A capacitor, comprising a first conductive layer, a dielectric layer, and a second conductive layer, at least one of said first and second conductive layers having the formula $M_xAl_yN_zB_w$, wherein M is Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, or W; x is greater than zero; y is greater than or equal to zero; the sum of z and w is greater than zero; and wherein when y is zero, z and w are both greater than zero.

22. The capacitor of claim 21 wherein said dielectric layer is selected from the group consisting of tantalum pentoxide (Ta_2O_5), Barium Strontium Titanate (BST), Strontium Titanate (ST), Lead Zirconium Titanate (PZT), Strontium Bismuth Tantalate (SBT) and Bismuth Zirconium Titanate (BZT).

23. The capacitor of claim 21 wherein said at least one $M_xAl_yN_zB_w$ conductive layer comprises a diffusion barrier for said capacitor.

24. The capacitor of claim 23 wherein said diffusion barrier is below the bottom electrode of said capacitor.

25. The capacitor of claim 21 wherein said at least one $M_xAl_yN_zB_w$ conductive layer is a bottom electrode of said capacitor.

26. A capacitor as in claim 21 wherein M is a metal selected from the group consisting of Ti, Zr, Hf, Ta and Nb.

27. A capacitor as in claim 26 wherein $x + y = 1$, and $z + w/2 = 1$.

28. A capacitor as in claim 21 wherein M is a metal selected from the group consisting of Mo and W.

29. A capacitor as in claim 28 wherein $x + y = 1$, and $z + 2w = 1$.

30. A capacitor as in claim 21 wherein M is Ti and W is greater than zero.

31. A capacitor as in claim 26 wherein said at least one conductive layer comprises a material having the formula $M_{0.7}Al_{0.3}N_{0.3}B_{1.4}$.

32. A capacitor as in claim 28, wherein said at least one conductive layer comprises a material having the formula $M_{0.7}Al_{0.3}N_{0.3}B_{0.35}$.

33. The capacitor of claim 21 wherein said dielectric layer comprises Ta_2O_5.

34. The capacitor of claim 21 wherein said capacitor is a container capacitor.

35. A capacitor, comprising a dielectric layer, a first conductive layer, a second conductive layer, and a conductive barrier layer containing a material having the formula $M_xAl_yN_zB_w$, wherein M is Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, or W; x is greater than zero; y is greater than or equal to zero; the sum of z and w is greater than zero; and wherein when y is zero, z and w are both greater than zero.

36. The capacitor of claim 35, wherein said dielectric layer is selected from the group consisting of tantalum pentoxide (Ta_2O_5), Barium Strontium Titanate (BST), Strontium Titanate (ST), Lead Zirconium Titanate (PZT), Strontium Bismuth Tantalate (SBT) and Bismuth Zirconium Titanate (BZT).

37. The capacitor of claim 35 wherein said first conductive layer comprises an electrode for said capacitor and is interposed between said dielectric and said barrier layer.

38. The capacitor of claim 35 wherein said first conductive layer comprises an electrode for said capacitor and said barrier layer is interposed between said dielectric and said first conductive layer.

39. The capacitor of claim 35 wherein said dielectric layer comprises a material selected from the group consisting of Ta_2O_5 and $(Ba, Sr)TiO_3$.

40. The capacitor of claim 35 wherein said capacitor is a container capacitor.

41. An integrated circuit comprising a capacitor, said capacitor comprising a first conductive layer, a dielectric layer, and a second conductive layer, at least one of said first and second conductive layers having the formula $M_xAl_yN_zB_w$, wherein M is Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, or W; x is greater than zero; y is greater than or equal to zero; the sum of z and w is greater than zero; and wherein when y is zero, z and w are both greater than zero.

42. The integrated circuit of claim 41 wherein said dielectric layer is selected from the group consisting of tantalum pentoxide (Ta_2O_5), Barium Strontium Titanate (BST), Strontium Titanate (ST), Lead Zirconium Titanate (PZT), Strontium Bismuth Tantalate (SBT) and Bismuth Zirconium Titanate (BZT).

43. The integrated circuit of claim 41 wherein said at least one conductive layer is a bottom electrode for said capacitor.

44. The integrated circuit of claim 41 wherein said dielectric layer comprises a material selected from the group consisting of Ta_2O_5 and $(Ba,Sr)TiO_3$.

45. The integrated circuit of claim 41 wherein said capacitor is a container capacitor.

46. The integrated circuit of claim 41, wherein the circuit is a memory circuit.

47. The integrated circuit of claim 41, wherein the circuit is a dynamic random access memory circuit.

48. A method for fabricating a capacitor comprising the steps of:

forming a first conductive layer;

forming a dielectric layer,

forming a second conductive layer,

wherein at least one of said first and second conductive layers is a material having the formula $M_xAl_yN_zB_w$, wherein M is Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, or W; x is greater than zero; y is greater than or equal to zero; the sum of z and w is greater than zero; and wherein when y is zero, z and w are both greater than zero.

49. The method of claim 48 wherein said one of said first and second conductive layers is a diffusion barrier interposed between a capacitor electrode and said dielectric.

50. The method of claim 48 wherein said one of said first and second conductive layers is a diffusion barrier and a capacitor electrode is interposed between said barrier and said dielectric.

51. The method of claim 48 wherein said dielectric is selected from the group consisting of tantalum pentoxide (Ta_2O_5), Strontium Titanate (ST), Barium Strontium Titanate (BST), Lead Zirconium Titanate (PZT), Strontium Bismuth Tantalate (SBT) and Bismuth Zirconium Titanate (BZT).

52. The method of claim 48 wherein said $M_xAl_yN_zB_w$ layer is formed by chemical vapor deposition.

53. The method of claim 52 wherein said $M_xAl_yN_zB_w$ layer comprises a metal selected from the group consisting of Ti, Zr, Hf, Ta and Nb and $x + y = 1$ and $z + w/2 = 1$.

54. The method of claim 52 wherein said $M_xAl_yN_zB_w$ layer comprises a metal selected from the group consisting of W and Mo and $x + y = 1$ and $z + zw = 1$.

55. The method of claim 52 wherein said chemical vapor deposition is conducted in a reaction chamber at a temperature in the range of about 100 to about 600 °C.

56. The method of claim 52 wherein said chemical vapor deposition is conducted in a reaction chamber at a temperature in the range of about 250 to about 550 °C.

57. The method of claim 52 wherein said chemical vapor deposition is conducted in a reaction chamber at a pressure in the range of about 0.1 torr to about 10 torr.

58. The method of claim 52 wherein said chemical vapor deposition is conducted by depositing a material of the formula $M_{0.7}Al_{0.3}N_{0.3}B_{1.4}$.

59. The method of claim 52 wherein said chemical vapor deposition is conducted by depositing a material of the formula $M_{0.7}Al_{0.3}N_{0.3}B_{0.35}$.

60. The method of claim 52 wherein said chemical vapor deposition is conducted by depositing said first metal, aluminum, nitrogen and boron simultaneously.

61. The method of claim 52 wherein said vapor deposition is conducted using a reactant gas to deposit said boron and nitrogen.

62. The method of claim 52 wherein said conductive barrier layer is formed by chemical vapor deposition of a metal halide composition.

63. The method of claim 52 wherein said chemical vapor deposition is conducted by deposition of a metallorganic precursor.

64. The method of claim 52, wherein said chemical vapor deposition is conducted using an aluminum precursor selected from the group consisting of DMEAA, dimethylaluminumhydride ethyldimethylamine adduct, dimethyl

aluminum hydride, an alkyl aluminum compound, an alkylaminealuminum compound, and any adducted complexes of the above-named aluminum-containing compounds..

65. The method of claim 52, wherein wherein said M is titanium and a single gas serves as titanium precursor and a nitrogen precursor.

66. The method of claim 65, wherein said titanium and nitrogen precursor is $Ti(N(CH_3)_2)_4$.

67. A method for fabricating a capacitor having a first and a second electrode, comprising the following steps:

forming an insulative layer overlying a substrate;

forming an opening in said insulative layer in order to expose said substrate;

forming a conductive plug in said opening, said conductive plug forming a first portion of the first electrode of said capacitor, said conductive plug recessed below a surface of said insulative layer;

forming a first conductive layer, for preventing diffusion of atoms, in said opening and overlying said conductive plug such that said first conductive layer is surrounded on sidewalls by said insulative layer, said first conductive layer forming a second portion of the first electrode, said first conductive layer being formed of a $M_xAl_yN_zB_w$ material deposited by chemical vapor deposition;

forming a second conductive layer overlying said first conductive layer, said second conductive layer forming a third portion of the first electrode, and wherein M is Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, or W; x is greater than zero; y is greater than or equal to zero; the sum of z and w is greater than zero; and wherein when y is zero, z and w are both greater than zero.

68. The method as specified in claim 67, further comprising the steps of:

creating a dielectric layer to overly said second conductive layer, said first conductive layer substantially preventing oxidation of said dielectric layer; and

creating the second electrode overlying said dielectric layer, said first and the second electrode and said dielectric layer forming the capacitor.

69. The method as specified in claim 67, wherein said step of forming the second electrode comprises sputtering an electrically conductive material to overly said dielectric layer.

70. The method as specified in claim 67, wherein said step of forming said first conductive layer comprises the following steps:

admitting a first metal precursor composition to a chemical vapor deposition reaction chamber,

admitting an aluminum precursor composition to said chemical vapor deposition reaction chamber,

applying sufficient nitrogen and boron reactant gases to said chemical vapor deposition reaction chamber to cause deposition of an amorphous metal, aluminum, nitride-boride alloy.

71. The method as specified in claim 67, wherein said step of forming said dielectric layer comprises depositing a dielectric material from a group of materials consisting of tantalum pentoxide (Ta_2O_5), Barium Strontium Titanate (BST), Strontium Titanate (ST), Lead Zirconium Titanate (PZT), Strontium Bismuth Tantalate (SBT) and Bismuth Zirconium Titanate (BZT).

72. The method as specified in claim 67, further comprising the step of planarizing said insulative layer prior to forming said conductive plug.

73. The method as specified in claim 67, wherein said step of forming said conductive plug comprises depositing in-situ doped polysilicon in said opening.

74. The method as specified in claim 67, wherein the step of forming said second conductive layer comprises forming said second conductive layer with a material selected from a group consisting of refractory metals, noble metals, conductive metal oxides, and metal nitrides.

75. A chemical vapor deposition method of depositing a single layer comprising a first metal, aluminum, nitrogen and boron on a semiconductor wafer, comprising the steps of:

placing said semiconductor wafer in a chemical vapor deposition chamber;

heating said wafer;

introducing a selected metal precursor, a selected aluminum precursor, a selected nitrogen precursor and a selected boron precursor into said chamber to generally simultaneously deposit said first metal, aluminum, nitrogen and boron on said semiconductor wafer.

76. The method of claim 75, wherein said metal is titanium and a single gas serves as said titanium precursor and said nitrogen precursor.

77. The method of claim 76, wherein said titanium and nitrogen precursor is $Ti(N(CH_3)_2)_4$.

78. The method of claim 75, wherein said wafer is heated to a temperature of approximately 250-550°C.

79. The method of claim 76, wherein said titanium and nitrogen precursor is of the formula $Ti(NR_2)_4$, where R is selected from the group consisting of one or more of hydrogen, an alkyl group and an aryl group.

80. The method of claim 75, wherein said aluminum precursor is selected from the group consisting of DMEAA, dimethylaluminumhydride ethyldimethylamine adduct, dimethyl aluminum hydride, an alkyl aluminum compound, an alkylaminealuminum compound, and any adducted complexes of the above-named aluminum-containing compounds.

81. The method of claim 76, wherein said titanium precursor is selected from the group consisting of tetrakisdiethylamidotitanium, bis(2,4dimethyl)(1,3-pentadienyl)titanium, titanium tetrachloride, titanium tetrabromide, titanium tetraiodide, and cyclopentadienylcycloheptatrienyltitanium.

82. The method of claim 75 wherein said metal precursor is selected from the group consisting of metal halide compounds and organometallic compounds.

83. The method of claim 75 wherein said boron precursor is a boron reactant gas.

84. The method of claim 75 wherein said nitrogen precursor is a nitrogen reactant gas.

85. The method of claim 75, wherein at least one of said precursors is introduced into said chamber in gaseous form.

86. The method of claim 75, wherein at least one of said precursors is introduced into said chamber through a bubbler.

87. The method of claim 75, wherein at least one of said precursors is introduced into said chamber through direct liquid injection.

88. A method of depositing an amorphous alloy comprising a first metal, aluminum, nitrogen and boron on an object, comprising the steps of

placing said object within a chemical vapor deposition chamber; and injecting gaseous precursors of said first metal, aluminum, nitrogen and boron into said chamber.

89. A method of depositing a generally conformal layer comprising a first metal, aluminum, nitrogen and boron on a semiconductor wafer, comprising the steps of:

providing a chemical vapor deposition reactor;

placing said wafer within said reactor;

heating said wafer to a selected processing temperature of from about 250 to about 550°C;

establishing a pressure of 100 millitorr to 10 torr within said reactor; and

injecting a selected quantity of a gaseous organometallic precursor into said chamber;

injecting a selected quantity of an aluminum precursor into said chamber.

90. The method of claim 89, wherein said aluminum precursor is selected from the group consisting of DMEAA, dimethylaluminumhydride ethyldiinethylamine adduct, dimethyl aluminum hydride, an alkyl aluminum compound, an alkylaminealuminum compound, and adducted complexes of any of the above-named aluminum-containing compounds.

91. The method of claim 89, wherein said first metal is titanium and is deposited from a titanium precursor selected from the group consisting of precursor of the formula $Ti(NR_2)$, where R is selected from the group consisting of one or more of hydrogen, an alkyl group and an aryl group, tetrakisdiethylamidotitanium, bis(2,4dirnethyl)(1,3-pentadienyl)titanium, titanium tetrachloride, titanium tetrabromide, titanium tetraiodide, and cyclopentadienylcycloheptatrienyltitanium.